

Application Serial No.: 09/408,198
Attorney Docket No.: 0190145

List of Claims:

Claim 1 (Currently Amended): A communication system for use with a transmitter that transmits optical infrared signals, the communication system comprising:

an infrared receiver employing an array of at least two photo-sensors that combine to detect the optical infrared signals within a solid angle;

each photo-sensor within the array of the at least two photo-sensors detects the optical infrared signals within a predetermined portion of the solid angle and generates an output signal; and

a photo-sensor selection control circuit configured to receive the output signal of each photo-sensor within the array of the at least two photo-sensors and to suppress the output signal of each photo-sensor within the array of the at least two photo-sensors that fails to meet at least one of [[a]] predetermined pulse width and pulse frequency thresholds.

Claim 2 (Previously Presented): The communication system of claim 1 wherein the infrared receiver further comprises:

a lens assembly for focusing the optical infrared signals onto the array of the at least two photo-sensors.

Application Serial No.: 09/408,198
Attorney Docket No.: 0190145

Claim 3 (Original): The communication system of claim 2 wherein the lens assembly employs a lens having an imperfect focus.

Claim 4 (Currently Amended): The communication system of claim 1 further comprising:

a filter circuitry coupled to each of the at least two photo-sensors, the filter circuitry filtering the optical infrared signals falling below a ~~predetermined~~ predetermined threshold frequency value.

Claim 5 (Original): The communication system of claim 4, further comprising:
an output summing circuitry that receives and sums unfiltered optical infrared signals.

Claim 6 (Previously Presented): The communication system of claim 4 further comprising:

a programmable gain circuitry coupled to each of the at least two photo-sensors that amplifies the output signal of each of the at least two photo-sensors.

Claim 7 (Original): The communication system of claim 6 wherein the programmable gain circuitry may dynamically adjust the amount of gain.

Application Serial No.: 09/408,198
Attorney Docket No.: 0190145

Claim 8 (Previously Presented): The communication system of claim 6, further comprising:

an analog to digital converter circuitry coupled to the programmable gain circuitry for converting outputs of the programmable gain circuitry to digital signals.

Claim 9 (Cancelled)

Claim 10 (Previously Presented): The communication system of claim 1 wherein the array of the at least two photo-sensors is one dimensional.

Claim 11 (Previously Presented): The communication system of claim 1 wherein the array of the at least two photo-sensors is multi-dimensional.

Claim 12 (Original): The communication system of claim 1 operating in a half duplex serial mode with a range of at least one meter.

Claim 13 (Previously Presented): The communication system of claim 1 operable at the solid angle from zero to approximately thirty degrees.

Application Serial No.: 09/408,198
Attorney Docket No.: 0190145

Claim 14 (Currently Amended): A method for capturing optical infrared signals within a solid angle, the method comprising:

- providing a photo-sensor array having at least two photo-sensors;
- detecting, by each photo-sensor within the photo-sensor array, optical infrared signals within a predetermined portion of the solid angle; ~~and~~
- converting the optical infrared signals into corresponding electrical signals; and
- selectively outputting, using a signal selection circuitry coupled to the photo-sensor array, the corresponding electrical signals based on at least one of a pulse frequency threshold and a power threshold.

Claim 15 (Cancelled)

Claim 16 (Original): The method of claim 14, further comprising:

- providing a lens for directing the optical infrared signals to the photo-sensor array.

Claim 17 (Original): The method of claim 16, wherein the lens is a diffused lens having an imperfect focus.

Application Serial No.: 09/408,198
Attorney Docket No.: 0190145

Claim 18 (Currently Amended): An infrared receiver that detects optical infrared signals, the infrared receiver comprising:

a photo-sensor array comprising a plurality of photo-sensors, each of the plurality of photo-sensors receiving optical infrared signals within a predetermined portion of a solid angle and converting received optical signals to electrical signals; and

a signal selection circuitry coupled to the photo-sensor array, the signal selection circuitry selectively outputting corresponding electrical signals based on at least one of a pulse frequency threshold and a power threshold.

Claims 19-20 (Cancelled)

Claim 21 (Original): The infrared receiver of claim 18 further comprising an optical system arranged to direct optical infrared signals to the photo-sensor array.

Claim 22 (Currently Amended): The infrared receiver of claim 18 wherein the array of photo-sensors detects signals operating within a signaling rate range of 9.6kb/s through 4mb/s.